

DuPont Chestnut Run Plaza

Center and Faulkland Roads

Wilmington, DE 19898

EPA ID #: DED003930799

Last Updated: April 19, 2006

Current Progress at the Site

In 1991, DuPont and DNREC both conducted a separate RCRA Facility Assessment (RFA) at DuPont Chestnut Run Plaza, which identified potential areas of interest at the site that may be subject to corrective action. In September 1996, DNREC recommended "no further action" for continued corrective action at the DuPont Chestnut Run facility. DNREC based this recommendation on information collected during the site visits and through researching facility files and historic records.

In order to make a final determination, EPA and DNREC plan to schedule a follow-up site visit to the DuPont Chestnut Run facility in May 2006. At this visit, they will review not only the previously identified areas of interest, but also assess new areas that could potentially be subject to the corrective action process.

Site Description

DuPont Chestnut Run Plaza is a 240-acre facility located on the northeast corner of Center and Faulkland Roads in Wilmington, Delaware. It is a multi-department research facility that consists of nineteen (19) buildings. Departments currently operating at the facility include research and development labs for fibers, imaging, chemicals, polymers, and most recently hydrogen fuel-cells.

Lancaster Court Apartments is located to the north of the facility, Faulkland Road to the south, Reading Railroad to the east, and Center Road to the west. The DuPont Experimental Station is also located just a few miles from DuPont Chestnut Run Plaza.

Site Responsibility

DNREC is the lead agency for the RCRA Corrective Action program at the DuPont Chestnut Run facility, with support provided by the EPA.

Contaminants

DNREC will identify contaminants of concern during the investigation phase of the corrective action process.

Community Interaction

Plans for community involvement are under development.

Institutional Controls

No institutional controls are currently in place at the Chestnut Run site.

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EPA Prep notes for
5/26/06 Site Visit

Dupont Chestnut Run Site Summary May 25, 2006

Short Summary:

Located on 240 acres 4000 feet west of incorporated limits of the City of Wilmington
Residential and educational use on adjacent properties
Public water supply - (confirm)
Groundwater 25-30 feet deep
Streams flow through property - Willow Run originates, Chestnut Run East and West Branches
Initial buildings built in 1952 (formerly a farm)
In 1991: 19 buildings, 8 buildings office space
Employed 3200 people
1 Permitted Storage Pad

1991 Clean Air Act status:

11 air discharge permits for process vents & boilers
75 air discharge exemptions - generally for lab hoods and small scale process vents

Little impervious property is apparent in 1991 photographs

Manages: Fibers, Imaging, Chemicals, Polymers, formerly Electronics

Chemicals: electrochemicals for plating, and etching, copper, etc. (See unit 13)
freon, freon alternatives
pigment research
paints
photography - silver halide technology
printing solvent waste (see unit #19)
solvents, lab chemicals, oils
acetone
ink waste
nonyl acetates
benzyl alcohol
ketones including MIBK
asbestos
heat transfer oil
teflon
carbon black

Haz waste quantities: 311,000 lbs 1987; 266,000 lbs 1988; 92,000 lbs 1989

Assessment History

June 1991: RFA prepared by Dupont - identified 16 SWMUs

September 1991: RFA prepared by DNREC)

Identified 27 SWMUs and 3 AOCs

VSI - July 17, 1991

April 15, 1996: Dupont Evaluation

Evaluated waste management practices

- throughout operational history, no waste material disposed on site
- no outdoor waste disposal or waste pits
- no onsite chemical waste disposal
- due to county sewer hookup since inception, no onsite septic system

Reviewed aerial photography

- 1961 and 1968 38"x38" enlarged sectionals
- 1989 oblique aerial view
- interviewed employees to determine historical building use

Provided a construction chronology

- buildings operated from 1953 to present

Identified SWMUs not listed in 1991 RFA

September 11, 1996: DNREC Evaluation

3 AOCs identified/addressed by DNREC; DNREC determined NFA

1. SWMU 9: Building 711(E) Crawl Space

- oil leaks from overhead machinery
- February 1991 investigation by Dupont
 - soil discolored to 5 ft deep
 - total TPH to 38000 ppm
- May 1991 (four?) soil borings installed around building
 - identified 15 to 20 feet of clay-silt overlying weathered bedrock
 - groundwater occurs primarily in weathered bedrock with minor areas of perched water in the clay silt layer
- June 1991 crawl space capped with concrete;
 - eliminated dripping on to exposed soils
- DNREC determined TPH migration potential is minimal
 - location below building limits rainwater infiltration
 - contamination occurs in low permeability clay-silt
 - TPH biodegrade relatively easily

2. SWMU 7: Building 711 (E) 90 Day Hazardous Waste Accumulation Area

- 80 foot by 30 foot concrete pad enclosed by a metal wall, a chain link fence, and a metal roof

- March 1996 DNREC inspection

- small qty of liquid in sump & staining on collection system grate

- no reading on PID

- Dupont

- weekly inspection for fluid and cracks

- annual thorough sump cleaning

- fluid s tested for pH and evaluated for proper disposal

- no cracks through time of March 1996 inspection

3. AOC 4: Fuel Oil Tank Truck Unloading Area

- concrete pad w/ 3 ft. walls on 3 sides

- contains pipes for fuel transfer from trucks to fuel tank

- adjacent asphalt road slopes down to a concrete containment trench

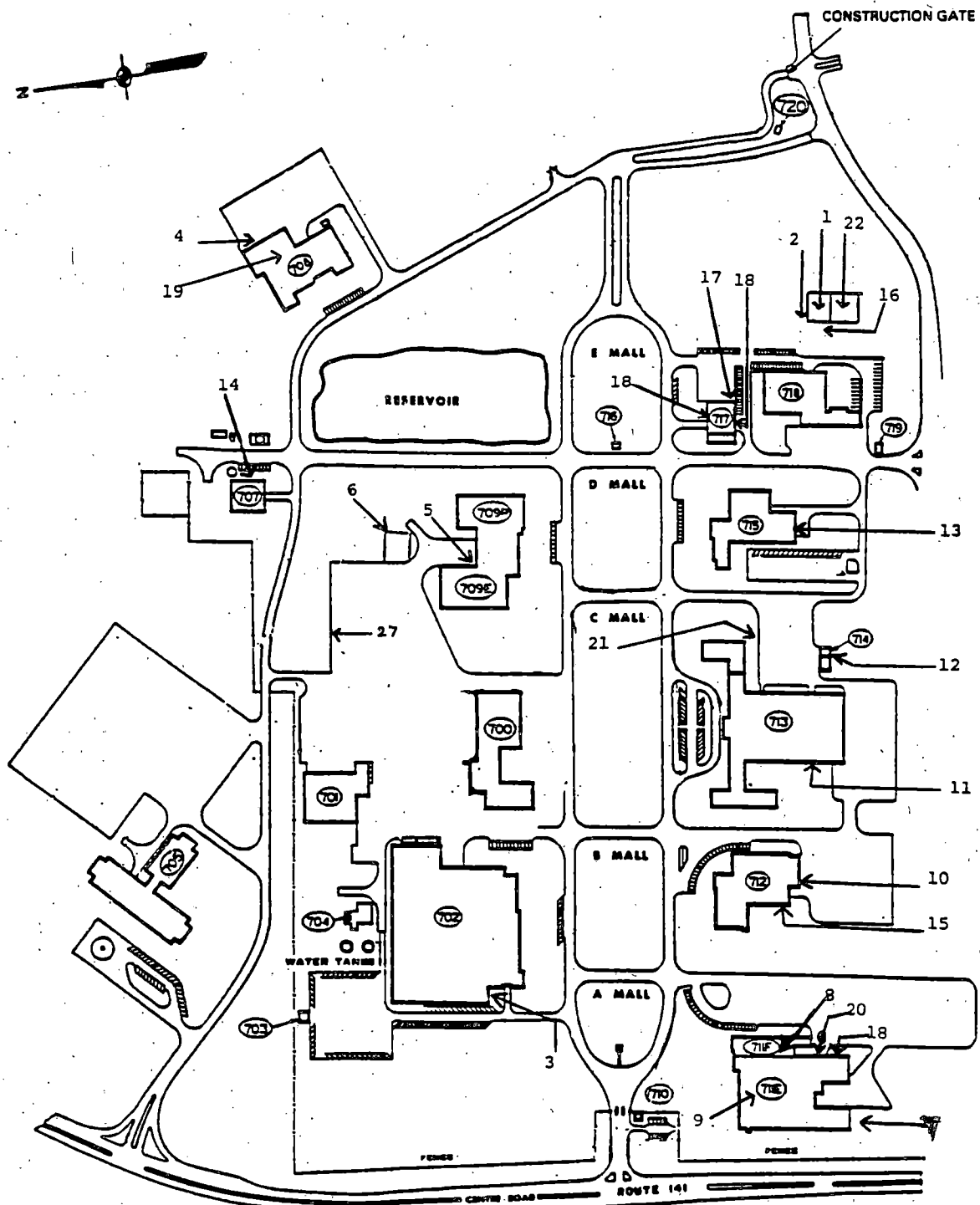
- March 1996 DNREC inspection

- oil drips observed by pipe coupling/transfer area

- pad adequately containing drips from pipe couplings

CHESTNUT RUN SITE

SWMU LOCATION MAP



- NOTE:
- o SWMU #23 and #24 are located within SWMU #22, therefore not shown.
 - o SWMU #25 consists of 41 separate refuse dumpsters located throughout the property. Not shown.
 - o SWMU #26 consists of 13 separate white paper recycling dumpsters located throughout the property. Not shown.

SWMU Summary:

SWMUs 1 through 16 identified by Dupont in 1991 RFA
SWMUs 17 - 27 and AOCs 1-3 identified by DNREC in 1991 RFA
AOC 4 identified by DNREC in 1996 assessment

SWMU 1: RCRA Permitted Hazardous Waste Pad - East of Building 718

SWMU 2: RCRA Interim Status Hazardous Waste Storage Area

East of Building 718, near SWMU 1

closure status?

SWMU 3: Non- Hazardous Waste Storage Area - Building 702

SWMU 4: 90-Day Hazardous Accumulation Area - Building 708

SWMU 5: 90-Day Hazardous Accumulation Area - Building 709

SWMU 6: Test Equipment Storage Pad - Building 709

SWMU 7: 90-Day Hazardous Waste Accumulation Area - Building 711(E)

-see DNREC 1996 assessment

SWMU 8: 90-Day Hazardous Waste Accumulation Area - Building 711(F)

SWMU 9: Crawlspace - Building 711(E)

-see DNREC 1996 assessment

SWMU 10: 90 Day Hazardous Waste Accumulation Area -Building 712

SWMU 11: Non-Hazardous waste oil storage area- Building 713

SWMU 12: Non-Hazardous Waste Storage Area- Building 714

SWMU 13: 90 Day Hazardous Waste Accumulation Area -Building 712

SWMU 14: Underground Pipe Between Fuel Storage Tank and Power House
(by building 707)

SWMU 15: Polyester Resin Cooling Dock and Refuse Dumpster (Building 712)

SWMU 16: Non-Hazardous Waste Storage Area (East of Building 718)

SWMU 17: Satellite Accumulation Area - Building 717

SWMU 18: Saw Dust Accumulation System- Building 717

SWMU 19: Satellite Accumulation Area - Building 708

SWMU 20: Carbon Black Dust Collection Unit- Building 711-E

SWMU 21: Process Polymer Waste Dumpsters - Building 713

SWMU 22: Scrap Metal Storage Area - East of Building 718

SWMU 23: Scrap Metal Dumpster - East of Building 718 with SWMU 22

SWMU 24: Asbestos Dumpsters - East of Building 718 with SWMU 22

SWMU 25: Refuse Dumpsters - 41 Dumpsters throughout the facility

SWMU 26: White Paper Recycling Dumpsters - 13 Dumpsters on property

SWMU 27: Aluminum Can/Plastic Bottle Recycling Bins

AOC 1: Storm Water System

NPDES Permit DE0000566

Chestnut Run Outfalls 001 and 003

Willow Run Outfall 002

outfalls contain storm water mixed with steam and humidity condensate, non-contact cooling water, and other "non regulated activity"

1991 testing included BOD, TSS, pH, temperature, bioassay, chronic and toxic compounds

AOC 2: Sewer System

DNREC concerned with age and condition of the system
Recommended verify the integrity of the underground sanitary piping system

New Castle County Sanitary Sewer Permit - regulated under Clean Water Act
Discharge Points 010 CTC and 011 Main
discharges include sanitary waste, process ww, and boiler & cooling towers water.
Buildings 702, 708 and 717 monitor pH of WW
in 1991, quarterly sampling of discharges for metals, pH, TSS, NH3, BOD,
cyanide, and phenolics

AOC 3: Abandoned Underground Storage Tanks

4 USTs installed in 1954, emptied and abandoned in 1957
a. Building 704 - #2 fuel oil
b. Building 712 - 13000 gallon tank, #6 fuel oil
c. Building 713 - (2) 20,000 gallon tanks, #6 fuel oil,

AOC 4: Fuel Oil Tank Truck Unloading Area

-see DNREC 1996 assessment

Potential New: - for Discussion

SWMU 28: Former Settling Pond - see page II-2 of RFA

SWMU 29: Sedimentation Pond - see page 5, 4/15/96 DERS letter

AOC 5: Underground Pipe Lines

AOC 6: Discharges Prior to Permitting

AOC 7: Waste Storage Prior to 1980

Building Evaluation:

Building 700: Administration, start up 1995

Buildings 701 & 702: built mid-1950's

Building 701 start up: 1958

Building 702 start up: 1954

Fibers and Composites Development Center-tech support
for textiles, industrial fibers, composites and flooring systems
in 1991, 702 sewer discharge monitored for pH

Building 703: Fire Station/Garage, start up: 1962

Building 704: Refrigeration House, start up 1954

Building 705: Laurel Run, startup 1958

Building 706: Storage Building (near old farm, removed 1987)
startup btw. 1962 and 1968

Building 707: Power House, start up 1961

Building 708: built 1968

Imaging, Medical, Electronics and D-SIMI Business
silver halide technology for photo film
photographic processing solutions
printing plates and printing plate solution development
pre-press proofing
in 1991, sewer discharge monitored for pH
in 1996, Customer Technology Center, Medical Products, External Affairs

Building 709:

built 1958 by the former Electrochemical Department -
Dept. phased out by 1981
early sixties - part of facility devoted to pigment research
- including paints and Lucite paints
1984: Phillips Du Pont Optical research laboratory
R&D of optical disks used for info. systems
in 1991: Chemicals and Phillips DuPont Optical
R&D titanium dioxide pigments in paints and thermoplastics
Development of urethane and terathane
in 1996: 709E: Electronic Specialties Laboratory
709P: Chemicals

Building 710: Main Gate House, start up 1953

Building 711: built 1955

711E:
thermoplastics milling
physical testing center
latex dispersion laboratory
in 1996: elastomers

711F:
Chemicals Department: Freon customer service center
analysis of Freon and Freon alternatives, refrigerant products, aerosols and foams

Building 712: built 1954

1954-1975- tech support for cellophane film
in 1991- polymer packaging development
plastic & Teflon molding, extrusion, product test
in 1996- Domestic Customer Service

Building 713: startup 1954

1975 to 1984 - tech support for cellophane film
in 1991- polymer packaging development -
plastic & Teflon molding, extrusion, product testing
in 1996- Technical Services Laboratory

Building 714: Technical Services Laboratory, startup 1954

Building 715: startup 1961

former Industrial and Biochemical Department - develop molding/casting cores
in '70's, Electrochemicals Dept. - plating research - gold leaf, electronics, photo products
etching, electronics etching
in 1991, Fibers Department - expansion of 701/702, above
in 1996, Electronic Materials Laboratory

Building 716: Pump House, start up 1955

Building 717: start up 1958

1981 - Engineering Dept.
in 1991-Materials, Logistics Services, site maintenance shop
maintenance, fabrication and repair of equipment & machinery, welding, and sheet
metal milling
in 1991, sewer discharge monitored for pH
in 1996, Transportation/Service

Building 718: start up 1958

in 1991: central shipping, receiving and storehouse for entire site
administers RCRA permitted storage pad, non-hazardous waste storage, and scrap metal
yard
in 1996: material handling, purchasing, stores, shipping & receiving

Building 719: Gate House, Start up 1960
Building 720: Construction Gate House, Startup 1986
Building 721: Maple Run, Start up 1988
Building 722: Walnut Run, Start up 1988
Building 723: Hickory Run, Start up 1988
Building 724: Credit Union, Start up 1988
Building 725: Picnic Pavillion, Start up 1989

Groundskeeper Shed - behind Building 717

Questions:

for Discussion

SPCC

boring logs - preconstruction; and by 711

sewer assessment?

underground pipelines?

historic fuel sources

building machinery drip collection method?

waste management prior to regulatory requirements (prior to 1980?)

send off site: 311,000 lbs. in 1987

266,500 lbs. in 1988

92,430 lbs. in 1989

discharges prior to permitting

former settling pond (DNREC RFA p. II-2)

sedimentation pond, page 5, 4/15/96 DERS letter

confirm water supply

(does Wilmington water supply extend outside of incorporated Wilmington to the surrounding area)

state jurisdiction- secondary containment?